

.4 Insulation Piercing Connectors (IPC)

Insulation piercing connectors are another particular subset of mechanical connectors. These connectors are designed for indoor and outdoor non-tension tap and splice applications on insulated secondary distribution lines. IPCs are recommended for use on combinations of insulated copper and aluminum conductors

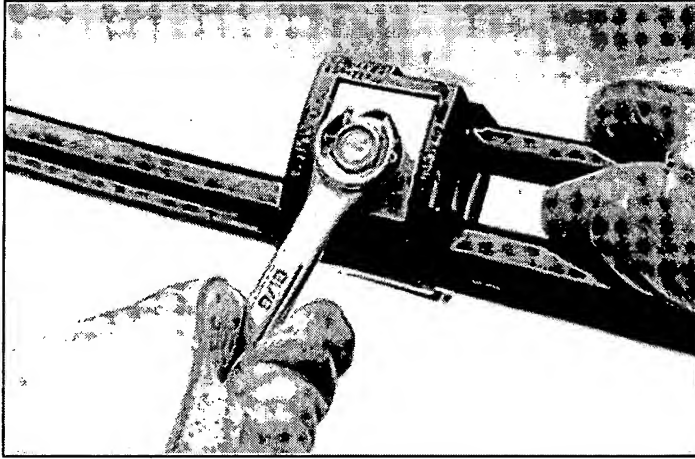


Figure 1.7-3 Installing an Insulation Piercing Connector

7.4.1 Advantages of Insulation Piercing Connectors

Insulation piercing connectors (IPC) are designed with lower installation costs in mind. No special tooling is required as they install with a basic wrench. When making connections to insulated conductors (their principal use), no insulation stripping or application of oxide inhibitor is required. IPCs incorporate contact teeth designed to penetrate conductor insulation and make electrical contact, and are pre-filled with an oxide inhibiting compound to fill voids where contamination may enter.

Insulation piercing connectors are themselves insulated, thus, no tape or special cover is required after the connection is made. Installations on energized conductors can be easily made and are relatively safe.

7.4.2 Disadvantages of Insulation Piercing Connectors

Insulation piercing connectors are limited in their scope of application. Specifically, they are recommended for low voltage (600 V and below) secondary distribution applications where insulated conductors are employed. The nature of the connection device limits these connectors to function mainly as taps, although some parallel splices can also be made. IPCs are for use in non-tension applications only.

With the many forms of conductors and insulations that are available today, always check the connector specifications for compatibility with the conductors being joined. IPCs may not be suitable for conductors with very thick, very thin, or very hard insulation materials as they could damage the conductor or not make electrical contact at all. Never use an IPC on bare conductor.